IN THE SPECIFICATION

Please amend the specification by inserting as the first sentence on page 2 before the phrase "**BACKGROUND OF THE INVENTION**", the following sentence:

--This application claims benefit of U.S. Provisional Patent Application Serial No. 60/301,429 filed June 29, 2001.--

Please amend the specification by replacing paragraph 0019 on page 10 with the following:

-- In accordance with a first embodiment of the present invention, there is provided an isolated nucleic acid comprising a nucleic acid sequence corresponding to the nucleic acid sequence of ~~SEQ ID NO. 1~~ SEQ ID NO: 1.--

Please amend the specification by replacing paragraph 0021 on page 10 with the following:

-- Yet another embodiment of the present inventive subject matter is an oligonucleotide in a range of 8-18 consecutive nucleotides selected from a sequence unique to ~~SEQ ID NO. 1~~ SEQ ID NO: 1 or the complement of ~~SEQ ID NO. 1~~ SEQ ID NO: 1.--

Please amend the specification by replacing paragraph 0022 on page 11 with the following:

-- Another embodiment of the present inventive subject matter is a isolated polypeptide comprising the amino acid sequence as

shown in ~~SEQ ID NO. 2~~ SEQ ID NO: 2, ~~SEQ ID NO. 3~~ SEQ ID NO: 3, or ~~SEQ ID NO. 4~~ SEQ ID NO: 4, wherein ~~SEQ ID NO. 2~~ SEQ ID NO: 2, ~~SEQ ID NO. 3~~ SEQ ID NO: 3, and ~~SEQ ID NO. 4~~ are the normal peptide product of the SLC11A3 gene, the mutated peptide product of the SLC11A3 gene and the wild type peptide product of the SLC11A3 gene, respectively.--

Please amend the specification by replacing paragraph 0023 on page 11 with the following:

--Yet another embodiment of the inventive subject matter is a pharmaceutical composition comprising the isolated polypeptide as shown in ~~SEQ ID NO. 2~~ SEQ ID NO: 2.--

Please amend the specification by replacing paragraph 0025 on page 11 with the following:

-- Yet another embodiment of the present inventive subject matter is a genetic marker predictive of a hereditary hemochromatosis (HH) gene mutation comprising a partial sequence of ~~SEQ ID NO. 1~~ SEQ ID NO: 1 and sequences complementary therewith. In one aspect, the nucleic acid is DNA. In another aspect, the DNA is cDNA. In another aspect, the nucleic acid is RNA. In another aspect, the nucleic acid is a nucleic acid sequence corresponding to the nucleic acid sequence of ~~SEQ ID NO:1~~ SEQ ID NO: 1.--

Please amend the specification by replacing paragraph 0030 on page 13 with the following:

-- Still yet another embodiment of the present inventive subject matter is a peptide product consisting of a polypeptide having the amino acid sequence corresponding to the sequence of ~~SEQ ID NO. 2~~ SEQ ID NO: 2, ~~SEQ ID NO. 3~~ SEQ ID NO: 3, or ~~SEQ ID NO. 4~~ SEQ ID NO: 4. In one aspect, the peptide is labeled. In another aspect, the peptide is a fusion protein.--

Please amend the specification by replacing paragraph 0032 on page 14 with the following:

-- Yet another embodiment of the present inventive subject matter is a method for diagnosing whether a patient is afflicted with hereditary hemochromatosis (HH) disease, comprising: contacting cells of the patient with antibodies directed against an epitope on an SLC11A3 protein product corresponding substantially to ~~SEQ ID NO. 3~~ SEQ ID NO: 3, or ~~SEQ ID NO. 4~~ SEQ ID NO: 4; and observing whether the antibodies localize on the cells. In one embodiment, the method is conducted *in vitro*. In another embodiment, the method is conducted *in vivo*.--

Please amend the specification by replacing paragraph 0041 on page 17 with the following:

-- Yet another embodiment of the present inventive subject matter is a method for diagnosing whether a patient is afflicted with anemia, comprising: contacting cells of the patient with antibodies directed against an epitope on an SLC11A3 protein

product corresponding substantially to ~~SEQ ID NO. 3~~ SEQ ID NO: 3, or ~~SEQ ID NO. 4~~ SEQ ID NO: 4; and observing whether the antibodies localize on the cells. In one embodiment, the method is conducted *in vitro*. In another embodiment, the method is conducted *in vivo*.--

Please amend the specification by replacing paragraph 0043 on page 17 with the following:

-- Yet another embodiment of the present invention is directed to a pharmaceutical composition for treating iron overload or anaemia in an animal, comprising a therapeutically effective amount of an catalytically active fragment of an amino acid sequence as shown in ~~SEQ ID No. 2~~ SEQ ID NO: 2, ~~SEQ ID NO. 3~~ SEQ ID NO: 3 or ~~SEQ ID NO. 4~~ SEQ ID NO: 4, and a pharmaceutically acceptable carrier.--

Please amend the specification by replacing paragraph 0072 on page 28 with the following:

-- Exon 1: Forward primer 5'-3' (F-) CCCCGACTCGGTATAAGAG (SEQ ID NO: 5), reverse primer 5'-3' (R-) TTCCTCCAGAACTCG TGT AG (SEQ ID NO: 6);--

Please amend the specification by replacing paragraph 0073 on page 29 with the following:

-- Exon 2: F-TGGATAAGCATTCTGCCCTC (SEQ ID NO: 7), R-TAAAGCATGTGTACTTGGATG (SEQ ID NO: 8);--

Please amend the specification by replacing paragraph 0074 on page 29 with the following:

-- Exon 3: F-AATGTAGCCAGGAAGTGCC (SEQ ID NO: 9), R-AGAGGTGGTGCCATCTAAG (SEQ ID NO: 10);--

Please amend the specification by replacing paragraph 0075 on page 29 with the following:

-- Exon 4: F-GGATAAGAACAGTCTCACTG (SEQ ID NO: 11), R-TTCATCCTTTACCACTACCAG (SEQ ID NO: 12);--

Please amend the specification by replacing paragraph 0076 on page 29 with the following:

-- Exon 5: F-TTAAA CTGCCTTGTTTAGTG (SEQ ID NO: 13), R-GCCTCATTTATCACCACCG (SEQ ID NO: 14);--

Please amend the specification by replacing paragraph 0077 on page 29 with the following:

-- Exon 6: F-TTGTGTAAATGG GCAGTCTC (SEQ ID NO: 15), R-CCTCGTCTACCAAAGCGATA (SEQ ID NO: 16);--

Please amend the specification by replacing paragraph 0078 on page 29 with the following:

-- Exon 7 (part1): F-GCTTTTATTTCTACAT GTCC (SEQ ID NO: 17), R-GCTGTGCCAATCCTGAGATC (SEQ ID NO: 18);--

Please amend the specification by replacing paragraph 0079 on page 29 with the following:

-- Exon 7 (part2): F-GAGCATCAGCTATAACTG ~~G.~~ G (SEQ ID NO: 19), R-TAATGGATTCTCTGAACCTAC (SEQ ID NO: 20);--

Please amend the specification by replacing paragraph 0080 on page 29 with the following:

-- Exon 8 (part1): F-TTGAAATGTATGCCTGTAAAC (SEQ ID NO: 21), R-TTTCCATGCCTCAACATAAGG (SEQ ID NO: 22);--

Please amend the specification by replacing paragraph 0081 on page 29 with the following:

-- Exon 8 (part2): F-GTTTTTACCACAGCTGTGCC (SEQ ID NO: 23), R-ATACCTTAAGATCAATAGGATC (SEQ ID NO: 24).--

Please amend the specification by replacing paragraph 0083 on page 30 with the following:

-- Testing of the base change in exon 5 in remaining family members and controls was done using Allele Specific Oligonucleotide Hybridization (ASO). PCR products containing exon 5 were amplified as described under sequencing. PCR products were blotted onto positively charged membranes. The blots were hybridized at 37^{o}C for 45' with either the normal (TATTGCA**A**ATTTGGC (SEQ ID NO: 25)) or mutated sequence (TATTGCA**C**ATTTGGC (SEQ ID NO: 26)). Filters were washed until a final stringency of 0.3 x SSC/0.1% SDS was obtained

for 15' at 37°C.--

Please amend the specification by replacing paragraph 0102 on page 39 with the following:

-- A preferred kit contemplates treating HH, comprising a catalytically active fragment of an amino acid sequence as shown in ~~SEQ ID No. 2~~ SEQ ID NO: 2, ~~SEQ ID NO. 3~~ SEQ ID NO: 3 or ~~SEQ ID NO. 4~~ SEQ ID NO: 4 in a pharmaceutically acceptable carrier and a device for delivery of the catalytically active fragment to the cells in need thereof, wherein the catalytically active fragment, the carrier and the device are packaged in a container.--

Please amend the specification by replacing paragraph 0104 on page 40 with the following:

-- Another preferred embodiment is a kit for detecting or identifying HH or anaemia, comprising: a) means for collecting a sample of DNA; and b) means for detecting a catalytically active fragment of an DNA sequence as shown in ~~SEQ ID NO. 1~~ SEQ ID NO: 1, in the DNA sample.--

Please amend the specification by replacing paragraph 0108 on page 41 with the following:

-- The present invention also relates to a pharmaceutical composition comprising: (i) a catalytically active fragment of an amino acid sequence as shown in ~~SEQ ID No. 2~~ SEQ ID NO: 2, ~~SEQ ID NO. 3~~ SEQ ID NO: 3 or ~~SEQ ID NO. 4~~ SEQ ID NO: 4 and (ii) a

pharmaceutically acceptable carrier.--

IN THE DRAWINGS

Please insert new drawings, Figs. 1-6 attached herewith, at the end of the present specification.